

## **Technique for Single Stage Revision for the Treatment of Chronic Infected Total Hip Arthroplasty**

Hossein Tabrizi, Jessica Lu Xu, Mehek Jahan, Scott Barrows Marston

**Background:** Total joint arthroplasty (TJA) is one of the most successful elective surgeries in modern medicine as it reduces pain, restores function, and improves quality of life [1]. In the United States, there are approximately one million TJAs performed annually with growth of 70-80% predicted by 2030 [1]. One of the most devastating complications is a periprosthetic joint infection (PJI), with an incidence of approximately 1% [3]. Management of chronic PJI involves a multidisciplinary approach with a combination of culture-specific antibiotics and surgical intervention [3]. Traditionally, surgery involves a staged approach. First, the implants are explanted, the joint debrided, and a temporary spacer is placed. After 6-8 weeks of antibiotics, the patient is then brought back to the operating room for re-implantation [3]. In contrast, a one stage technique—popularized in Europe—involves explanation, debridement, and reimplantation all under one anesthesia event [3]. This technique is gaining popularity in the United States, as it can reduce morbidity while showing comparable long-term outcomes [4].

**Methods:** This video presents a case demonstrating single-stage revision total hip arthroplasty in a 60-year-old male who had a left primary total hip arthroplasty performed 2 years prior to presentation with concern for periprosthetic joint infection. The video discusses postoperative protocol, outcomes, and literature review, along with important tips and tricks for performing the procedure.

**Results:** Patients are seen postoperatively at 2 weeks, 6 weeks, 3 months, 1 year, and annually thereafter. Antibiotics and their duration are determined based on intraoperative cultures in consultation with the infectious disease team in a multidisciplinary approach. Empiric therapy is continued if cultures are negative. Typical regimen involves 6 weeks of intravenous antibiotics followed by 3-6 months of oral antibiotics, and in rare circumstances, lifelong suppressive antibiotics.

**Conclusions:** As opposed to staged debridement and reimplantation, single-stage revision to treat chronic periprosthetic joint infections of the hip can reduce morbidity, decrease healthcare costs, and bring about an earlier return to function, along with comparable success rates of managing the infection.